the variable expression in families. Of note, however, in the fact that the identification of the defect at the molecular level, recently published by Sherman and others, has made much of the molecular marker information presented here obsolete. Many of the confusing aspects of the reported pedigrees can now be explained by the observation of a variable number of CGG repeats at the fragile X locus, an observation that has rendered the inferential molecular studies and cytogenetic methods obsolete for family studies, and nearly so for diagnostic purposes.

The contributions on cancer cytogenetics are interesting, though limited. The review by Sandberg was up to date in 1989, and the reader would find it helpful, though supplemental reading must be done to update it further. There are a number of well-reproduced karyotypes which provide examples of cytogenetic abnormalities. Wolman provides a nice review paper.

The clinical and epidemiological information is still applicable, but the rest of the fragile X contributions now have limited value since the publication of the molecular definition of the syndrome. The book will therefore be of use to specialists interested in the background and history, readers who want clinical details, and those interested in cancer cytogenetics. It will be of less use to students, generalists, and those interested in the latest advances in our understanding of fragile X.

MARGRETTA R. SEASHORE
Department of Genetics
Yale University School of Medicine

THE GENETIC REVOLUTION. SCIENTIFIC PROSPECTS AND PUBLIC PERCEPTIONS. Edited by Bernard D. Davis. Baltimore, MD, The Johns Hopkins University Press, 1991. 295 pp. $15.95. Paperbound.

This delightful volume is a collection of essays written about the advances in molecular genetics over the past century. The authors comprise a list of luminaries in modern genetics as well as experts in other areas, many of whom speak from the perspective of those who have watched the developments in genetics over a professional lifetime. The purpose of the book is no less than to lay out the developments in molecular genetics and to discuss their implications for the world: the environment, the future of science, even the future of mankind. The audience is the educated and thoughtful non-scientist, as well as the concerned scientist.

The perspectives of a molecular geneticist, an ecologist, and an environmentalist on the recombinant DNA controversy make fascinating reading. At the same time, they present the arguments for the use of this powerful technology and the reminder that some of our technical advances have been ecological time bombs. Of particular interest are the discussions about the debate on the environmental release of engineered microorganisms. Both Allen Campbell and Simon Levin point out that the answers to these questions turn less on the fact that the organisms are engineered than on their use and purpose. It is a humbling reminder that some events which appear to be great scientific advances have already happened spontaneously in nature; the scientist only learns how to perform them in a planned manner. As the lawyer, Richard Stewart, reminds the reader, "genetic engineering by selective breeding is an ancient practice."

Neuroscience, evolution, molecular medicine, government regulation of science, all provide the stuff of wide-ranging essays. The discussions are balanced, thoughtful,

and carefully reasoned, as would be expected of this group of authors. At the end of the book, Davis summarizes these essays in a way which integrates the information and reflects how it all fits together. The writing could be used as a model by young scientists everywhere.

MARGRETTA R. SEASHORE
Department of Genetics
Yale University School of Medicine

THE NEW MEDICINE & THE OLD ETHICS. By Albert R. Jonsen. Cambridge, MA, Harvard University Press, 1990. 171 pp. No price.

Albert R. Jonsen, Chairman of the Department of Medical History and Ethics at The University of Washington School of Medicine in Seattle, has written a splendid little book; this book is based upon Professor Jonsen's 1988 George Washington Gay Lecture to the students of the Harvard University School of Medicine. I believe that this book has sufficient stature and grace to earn a place alongside Francis Weld Peabody's famous essay, "The Care of the Patient," the Gay Lecture for 1927, which concluded with the epigrammatic ". . . the secret of the care of the patient is in caring for the patient."

Professor Jonsen reflects on his creation after having composed its several chapters:

> History they are not, although they relate some bits and pieces of the history of medicine and of the Western world. Philosophers would not recognize them as respectable philosophical discourse, although Aristotle and Jeremy Bentham and Alisdair MacIntyre show up from time to time. *Time* magazine and the *New York Times* serve up fragments of current events; the *New England Journal of Medicine* brings us up to date with medical science and health policy. Asklepios, a figure of myth and poetry, Jesus, a figure from revelation, and Sir William Osler, standing firmly in the annals of modern medicine, appear with equal billing. All of this is stirred together: what is the proper name for this potpourri?

In the midst of his reflection, Jonsen tells us, he read a review of a new translation of the Talmud. Most of the Talmud, said the reviewer, is not *halakah* (law); it is rather *aggadah,* "a magical rabbinic mode of thought in which myth, theology, poetry and superstition robustly mingle." This observation suggested to Jonsen a name for his literary genre:

> These chapters are secular aggadah. They move without embarrassment among myth, history, science, and philosophy, picking ideas and events that please. The excursion is not pointless, however; the ideas that are selected are bundled together in the hope that they will generate insight about the contemporary world in which physicians and patients need each other. . . . The moral life of the world cannot be delineated in clear bright lines. It is rather a chiaroscuro in which shadowy figures from history, myth, and tradition are often more powerfully present than the pallid propositions of philosophical ethics. This is the world of medicine that I have been watching.